



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

*[Handwritten signature]*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,079	02/13/2006	Dan Raphaeli	.341517	8051

7590 10/04/2006

Mark M Friedman  
Polkinghorn  
9003 Florinway  
Upper Malboro, MD 20772

EXAMINER

JEAN PIERRE, PEGUY

ART UNIT PAPER NUMBER

2819

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/568,079	RAPHAELI, DAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Peguy JeanPierre	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 40-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 40-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because blocks 61 in Figures 2 and 3; blocks 67, 70, and 71 in Figures 5 and 6 and also block 68 in Figure 6, block 91 in Figure 5A, blocks 75A and 75B in Figures 7, are not labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The disclosure is objected to because of the following informalities: It is required that the sentence "This application is a 371 of PCT/IL04/00739 filed on 8/11/2004 " be written on the first page and first line of the specification. Appropriate correction is required.
4. The abstract of the disclosure is objected to because it must be presented on a single sheet of paper. The front page of the WO application that comprises an abstract is not acceptable. Correction is required. See MPEP § 608.01(b).
5. The specification has not been checked to the extent necessary to determine the presence of all possible grammatical and typographical errors. Applicant's cooperation is required in correcting errors he/she may become aware in the application.
6. The description is referring to MIMO input signals 55 and 57 (see page 9 line 22), this is confusing since signal 57 is outputted from the control unit 52 that is coupled to the output of the MIMO system. The description of the "model" and "system" is very confusing, is the sampler a model or a system? Does the system describe in the specification represent all the circuit elements of the converter? Please clarify.
7. The specification describes that the DSP identifies the model of the sampler. It appears that the DSP is coupled to the output of the sampler and there is no link of communication (feedback) between the output of the DSP and the sampler to indicate of the system the configuration of the sampler. It is not also clear how the described process can identify the model, the property and characteristic of each model; whether the model differs by frequency, sample rate, amplitude, frequency modulation, amplitude modulation or the model is identified by shape, function, process etc....

***Claim Rejections - 35 USC § 112***

In renumbered claims 40 and 52 (original claims 1 and 13), the preamble reads “A method for sampling at least one analog input signal,...” the body of the claims seems to convert an analog input signal to corrected digital signal. Please clarify. The same rejection for renumbered claim 52 (original claim 13); in line 2, the term “ a system” is broad and indefinite; the system seems to refer to an apparatus (note that the claim is a method claim that comprises a plurality of steps); in line 6, the term “a model” is broad, unclear, undefined, and confusing. It is not clear what the model represents. It is not also clear how the model can be used to calculate a digital output (see paragraph (e) of renumbered claim 40); in claim 2 (renumbered claim 41), line 1, the term “ the group” lacks antecedent basis; in lines 2 and 3, the term “a unified model” is unclear and it makes the term model recited in claim 1 more confusing; the term “continuous systems” having a unified model makes the term “system” recited in claim 1 more confusing. ; In claim 4 (renumbered claim 43) line 1, the term “the value” lacks antecedent basis; in addition the term “ the group” lacks antecedent basis;

In claims 8 and 9 (renumbered claims 47-48), the term “analog training signal” is confusing. The relationship between the analog training signal, the analog monitoring signal, and the analog signal is not clear. Figures 2 and 3 illustrate an analog training signal that is inputted to the input of the DAC and the DSP, this is confusing since the DAC generates the discrete correction signals based on the analog monitoring output that is converted to digital signal. It is not clear how the analog training signal is generated, how the model identify or interleave the analog signal and the training signal.

The claims as understood by the examiner recite analog to digital converter with a digital to analog converter in its feedback path.

An art rejection of the claims as understood by the Examiner appears below.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

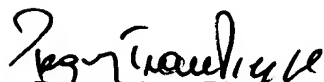
Claims 40-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Robinson (US 6,894,632).

With regard to renumbered claims 40-58, Robinson discloses in Figure 4 a system that comprises a plurality of circuit elements which can be implemented with discrete time and continuous time circuits (see col. 9, lines 19-23), the system can also be constructed as a linear model (see col. 8, lines 12-29). The system is based on a model that comprises a sample and hold circuit (170 Fig. 4), a quantization stage (172), a digital processor (180) coupled to the output of the quantizer, a digital to analog converter (184) that is also coupled to the output of the quantizer to convert the digital output of the quantizer to analog and feed the discrete correction signal to the system, a synchronization clock (158) that is coupled to synchronize the operation of the system. The system may include one or more stages (col. 3, lines 28-31). A configuration control unit that is coupled to receive the output of the DSP and operate to configure the

Art Unit: 2819

operation of the system and the model by inherently using algorithm to determine the configuration of the system (see col. 16, lines 8-13).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peguy JeanPierre whose telephone number is (571) 272-1803. The examiner fax phone number is (571) 273-1803.

  
Peguy JeanPierre  
Primary Examiner